IN THE CLAIMS:

The current claims follow. For claims not marked as amended in this response, any difference in the claims below and the previous state of the claims is unintentional and in the nature of a typographical error.

1. (Currently Amended) A system comprising:

a light source capable of emitting light at a variable output power to transmit data at a given data rate;

a monitor diode positioned to receive at least a portion of the emitted light, the monitor diode comprising a PIN diode having a bandwidth only partially overlapping a lower end of a data transmission spectrum for the data rate; and

a controller capable of determining an average output power of the light source based on an output signal of the monitor diode, comparing the average output power to a target value, and adjusting the variable output power of the light source by:

incrementing or decrementing a logical 1 level current based on the comparison of the average output power to the target value; and

determining a modulation current for the light source using the incremented or decremented logical 1 level current.

2. (Previously Presented) The system according to claim 1, wherein the bandwidth of the monitor diode is substantially less than the data rate.

3. (Previously Presented) The system according to claim 1, wherein the bandwidth of the monitor diode is less than or equal to between one tenth and one fortieth of the data rate.

4. (Original) The system according to claim 1, wherein the monitor diode functions as a low pass filter operating on the light emitted by the light source.

5. (Previously Presented) The system according to claim 1, further comprising:

peak detectors with decay capable of detecting a peak-to-peak amplitude of the output signal of the monitor diode, wherein the peak-to-peak amplitude is directly representative of optical modulation amplitude for the light source.

6. (Previously Presented) The system according to claim 5, wherein the controller is capable of employing output signals from the peak detectors to control optical modulation amplitude or extinction ratio of the light source.

7. (Previously Presented) The system according to claim 6, wherein the system is included in an optical subassembly, the optical subassembly adapted for transmission of data over an optical transmission medium.

8. (Previously Presented) The system according to claim 7, wherein the optical subassembly is included in a computer, the computer further comprising:

a processor coupled to the controller; and

a network connection through the optical subassembly to the optical transmission medium.

9. (Currently Amended) A method comprising:

emitting light from a light source at a variable output power to transmit data at a given data rate;

receiving at least a portion of the emitted light at a monitor diode, the monitor diode comprising a PIN diode having a bandwidth only partially overlapping a lower end of a data transmission spectrum for the data rate;

determining an average output power of the light source based on an output signal of the monitor diode;

comparing the average output power to a target value; and

adjusting the variable output power of the light source by:

incrementing or decrementing a logical 1 level current based on the comparison of the average output power to the target value; and

determining a modulation current for the light source using the incremented or decremented logical 1 level current.

10. (Previously Presented) The method according to claim 9, wherein the bandwidth of the monitor diode is substantially less than the data rate.

11. (Previously Presented) The method according to claim 9, wherein the bandwidth of the monitor diode is less than or equal to between one tenth and one fortieth of the data rate.

12. (Original) The method according to claim 9, further comprising:

low pass filtering the light emitted by the light source using the monitor diode.

13. (Previously Presented) The method according to claim 9, further comprising:

detecting peak-to-peak amplitude of the output signal of the monitor diode, wherein the peak-to-peak amplitude is directly representative of optical modulation amplitude for the light source.

14. (Previously Presented) The method according to claim 13, further comprising:

employing the peak-to-peak amplitude for the output signal of the monitor diode to control optical modulation amplitude or extinction ratio of the light source.

15. (Currently Amended) A system comprising:

a signal source capable of emitting a high frequency signal to transmit data at a given data rate;

a monitor device capable of receiving at least a portion of the emitted signal, the monitor device comprising a PIN diode having a bandwidth only partially overlapping a lower end of a data transmission spectrum for the data rate; and

a controller capable of determining an average output power of the signal source based on an output signal of the monitor device, comparing the average output power to a target value, and adjusting an output power of the signal source when the average output power does not equal the target value and a modulation current used to drive the signal source has not reached a maximum or minimum value.

16. (Previously Presented) The system according to claim 15, wherein the bandwidth of the monitor device is substantially less than the data rate.

17. (Previously Presented) The system according to claim 15, wherein the bandwidth of the monitor device is less than or equal to between one tenth and one fortieth of the data rate.

18. (Original) The system according to claim 15, wherein the monitor device functions as a low pass filter operating on the high frequency signal emitted by the signal source.

19. (Previously Presented) The system according to claim 15, further comprising:

peak detectors with decay capable of detecting a peak-to-peak amplitude of the output signal of the monitor device.

20. (Previously Presented) The system according to claim 19, wherein:

the signal source is a light source capable of emitting light to transmit the data at the data rate;

the monitor device is a low bandwidth monitor diode capable of receiving at least a portion of the emitted light;

the peak-to-peak amplitude detected by the peak detectors is directly representative of optical modulation amplitude for the light source; and

the controller is capable of employing output signals from the peak detectors to control the output power of the light source.